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CLAIMS**(57) [Claim(s)]**

[Claim 1] Two or more healthy measuring equipment equipped with a means to transmit a means to memorize a means to measure health condition, and the measured data, and the memorized data to a data transfer unit. The data transfer unit equipped with the means which carries out wireless transmission of a means to read the data which connected with healthy measuring equipment and healthy measuring equipment transmitted, and the read data at a terminal unit. The home health care system characterized by consisting of a terminal unit equipped with the actuation means for the means and user who manage a means to receive the data in which the data transfer unit carried out wireless transmission, and the received data operating it.

[Claim 2] The home health care system according to claim 1 characterized by enabling it to transmit people's ID data specified by the means for a data transfer unit being equipped with a means to specify a user, and specifying a user to a terminal unit.

[Claim 3] The home health care system according to claim 1 or 2 characterized by enabling it to transmit the control code for having a means for a data transfer unit operating a terminal unit by remote control, and operating a terminal unit by remote control to a terminal unit.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

- [0001] **[Field of the Invention]** This invention relates to the home health care system which enables it to perform the health care, receiving an expert's advice at a house etc. by using for the independent health care by carrying out unitary management of the data about the health condition measured by general domestic with a terminal unit, or sending the data to experts who are present in a remote place through a communication network, such as a medical practitioner and a public health nurse.
- [0002] **[Description of the Prior Art]** According to progress of rapid aging in recent years, the medical finances of our country have been tight and the response is searched for. In government, while making the health care cost burden to people increase, importance is attached to the changeover for the policy of "healthy structure for not becoming a disease" from the policy of conventional "early detection and early treatment" of a disease as a fundamental policy.

[0003] The "home health care system" is proposed as one of the means which performs effectively "healthy structure for not becoming a disease" mentioned above. This intends to measure the data (for example, for it to be the temperature measured in the blood-pressure value measured with the electronic tonometer, or the thermometer, and to be indicated as healthy data below.) about health condition measurable by general domestic at each home, to transmit to a medical institution, a health center, etc. through communication networks, such as a public line and a CATV circuit, with the terminal unit of dedication of the data, and to have the data analysis/a judgment by the expert made, and there is.

[0004] According to such a home health care system, it can carry out to the basis of instruction of the everyday health care in a home of an expert, and

the more reliable health care comes be made, as a result the cutback of the count of going to hospital regularly can be expected.

[0005] As such a system, the home health care system shown in drawing 7 is proposed by JP,8-275927,A. If it is in this system, the terminal unit itself has the function of healthy measuring equipment, such as a sphygmomanometer and an electrocardiograph.

[0006] Generally, the terminal unit used with a home health care system is installed in a place with the connection terminal of the communication network which uses the data about the inputted health condition from it being necessary to transmit to a medical institution, a health center, etc. through a communication network. For example, when using the telephone line, a terminal unit will be installed near a modular terminal. Therefore, if it is in the home health care system shown in drawing 7, when it has the composition that a terminal unit and healthy measuring equipment were unified, in case a user measures health condition, he has to go till the place in which the terminal unit is installed specially, and may sense disadvantage for using it.

[0007] Then, with the home health care system of a publication, a terminal unit and healthy measuring equipment are independently prepared in JP,9-140748,A, infrared communication facility is prepared and the thing which enabled it to input the measured data into a terminal unit from remoteness is in healthy measuring equipment, such as a sphygmomanometer and a thermometer.

[0008]

[Problem(s) to be Solved by the Invention] However, if it was in the home health care system of the above configurations, the dependability of the health care improved so that there were many classes of healthy measuring equipment which can be used, but when the wireless communication facility by infrared radiation, an electric wave, etc. was included in all the healthy measuring equipment to be used in such a case, it led to the extraordinary cost rise of a home health care system, as a result had the trouble of becoming the hindrance of installation of a home health care system.

[0009] Like the above, the conventional home health care system has the problem that it will be inconvenient to use it or it will become expensive, and had become the factor in which these things bar the spread of home health care systems.

[0010] The place which accomplishes this invention in view of the above-mentioned trouble, and is made into the object is to offer a low cost home health care system that it is easy to use.

[0011]

[Means for Solving the Problem] Two or more healthy measuring equipment equipped with a means to transmit a means to memorize a means by which

invention according to claim 1 measures health condition, and the measured data, and the memorized data to a data transfer unit. The data transfer unit equipped with the means which carries out wireless transmission of a means to read the data which connected with healthy measuring equipment and healthy measuring equipment transmitted, and the read data at a terminal unit. It is characterized by consisting of a terminal unit equipped with the actuation means for the means and user who manage a means to receive the data in which the data transfer unit carried out wireless transmission, and the received data operating it.

[0012] In a home health care system according to claim 1, a data transfer unit is equipped with a means to specify a user, and invention according to claim 2 is characterized by enabling it to transmit people's ID data specified by the means for specifying a user to a terminal unit.

[0013] In a home health care system according to claim 1 or 2, invention according to claim 3 is equipped with a means for a data transfer unit to operate a terminal unit by remote control, and is characterized by enabling it to transmit the control code for operating a terminal unit by remote control to a terminal unit.

[0014]

[Embodyment of the Invention] Hereafter, the *gestalt* of 1 operation of this invention is explained to a detail based on drawing_1 thru/or drawing_6. Drawing_1 is the block diagram of the home health care system concerning this invention. Drawing_2 R> 2 is the block diagram showing the internal configuration of healthy measuring equipment. Drawing_3 is the block diagram showing the internal configuration of a data transfer unit. Drawing_4 is general-view drawing showing the example of connection of healthy measuring equipment and a data transfer unit. Drawing_5 is general-view drawing of a data transfer unit. Drawing_6 is the block diagram showing the internal configuration of a terminal unit.

[0015] The home health care system concerning this invention consists of pin center, large equipment 5 installed in an external hospital, the health center, the care pin center, large, etc. which were connected with the home side system which consists of the healthy measuring equipment 1a-1n, a data transfer unit 2, and a terminal unit 3, and the terminal unit 3 of a home side system through the telecom infrastructure 4, as shown in drawing_1 R> 1.

[0016] As healthy measuring equipment 1a-1n, there are a blood sugar meter besides a sphygmomanometer, a thermometer, and the scale, a pedometer, an electrocardiograph, etc., and if health condition can be measured at a home, there will be especially no limit. Moreover, you may make it one device independently used for these devices according to a user's situation, and may make it used for them combining two or more devices.

[0017] The healthy measuring equipment 1a-1n consists of means 10a-10n to measure the data related healthily, means 12a-12n to memorize the measured data, and the transmitting means 14a-14n for inputting the memorized data into a data transfer unit 2 and the control means 16a-16n which perform those control, as shown in drawing_2.

[0018] a means to measure temperature if it is the means and thermometer which will measure blood pressure if means 10a-10n to measure the data related healthily are sphygmomanometers — pointing out — each healthy measuring equipment 1 — it completely differs for a-every. moreover, Means 12a-12n and the control means 16a-16n which memorize the measured data — each healthy measuring equipment 1 — it differs for a-every.

[0019] However, about the transmitting means 14a-14n for inputting the memorized data into a data transfer unit 2, what fills common specification with all the healthy measuring equipment 1a-1n is used, one data transfer unit 2 used in common to every healthy measuring equipment 1a-1n by this — data ***** — things are made.

[0020] This data transfer unit 2 consists of a means 20 to read the data which the healthy measuring equipment 1a-1n transmitted, a means 22 which carries out wireless transmission of the read data at a terminal unit, and a control means 24 which performs those control, as shown in drawing_3.

[0021] The terminal unit 3 consists of the microprocessor 30 for controlling this equipment, ROM40 in which OS and application software were stored, RAM42 as a work area, the flash memory 44 for saving data, a means 50 to receive the data in which the data transfer unit 2 carried out wireless transmission, a LCD monitor 60, manual operation buttons 70, 72, and 74, and means of communications 80 for performing data communication with the exterior, as shown in drawing_6.

[0022] Pin center, large equipment 5 is built using the usual personal computer and the interface device for communication networks to be used, and the data which were saved at the terminal unit 3 and which are related healthily can be periodically collected now automatically through a communication network 4.

[0023] It has been made to be performed by electric connection of the terminal for a communication link that transmission and reception of the data between the healthy measuring equipment 1a-1n and a data transfer unit 2 mind the male terminal prepared in the Metz terminal and data transfer unit 2 which were formed in the healthy measuring equipment 1a-1n (an electronic tonometer is used as healthy measuring equipment in drawing_4) as shown in drawing_4. A data transfer unit 2 receives data from the healthy measuring equipment 1a-1n, and carries out wireless transmission at a terminal unit 3 at the same time the healthy measuring equipment 1a-1n is connected.

However, the data which prepared the are recording means and transmitting carbon button of data separately, and were received from the healthy measuring equipment 1a-1n are once stored according to the situation that a data transfer unit 2 is used, and when a transmitting carbon button is pushed after that, it may be made to carry out wireless transmission at a terminal unit 3. Moreover, as a gestalt of a data transfer unit 2, as shown in drawing 4, it is good also as a thing of a pocket mold, and it is good also as a non-portable thing which can install and set healthy measuring equipment as shown in drawing 5.

[0024] Thus, when are and data receive it made to be transmitted by electric connection of the mutual terminal for a communication link between the healthy measuring equipment 1a-1n and a data transfer unit 2, a circuit required for it can be far realized cheaply compared with the circuit of the wireless communication link by infrared radiation, an electric wave, etc. [0025] Although high cost-ization of a home health care system will be caused when wireless communication facility is prepared in all the healthy measuring equipment 1a-1n and there are many healthy measuring equipment [to be used / 1a-1n] classes, as mentioned above The ** which does not cause high cost-ization by forming one data transfer unit 2 which is common to all the healthy measuring equipment 1a-1n, and can be used according to the Home health care system concerning the gestalt of this operation. The data input in wireless to a terminal unit 3 is realized, and the home health care system which is easy to use can be offered.

[0026] In addition, you may make it add the means for specifying a user as a data transfer unit 2. If there are a carbon button with which a user's identifier was written, a reader of a slide switch and a fingerprint, etc. as a means to specify a user, for example and a user can be specified, it is good anything.

[0027] Usually, although possibility of using a home health care system by two or more men is high at home, a terminal unit 3 needs to enable it to recognize whose thing the received healthy data are in such a case. When people's identifier which may be used beforehand is registered into the terminal unit 3 as a means for that and a terminal unit 3 receives data from a data transfer unit 2, people's identifier registered is displayed on the LCD monitor 60, and there is a method of choosing those who correspond out of it with manual operation buttons 70, 72, and 74. However, when the approach mentioned above is used, a user will have to go out till the place which has a terminal unit 3 despite a join office, and will become disadvantage.

[0028] Since a user can be specified with a data transfer unit 2 according to the home health care system applied to the gestalt of this operation on the other hand, in case healthy data are transmitted to a terminal unit 3 from a data transfer unit 2, the healthy data which received the terminal unit 3 can

recognize whose thing it is by transmitting ID data equivalent to the user specified together. Thereby, even when using a home health care system by two or more men, the healthy entry of data from remoteness to a terminal unit 3 becomes possible, and it very becomes easy to use.

[0029] Furthermore, you may enable it to operate a terminal unit 3 by remote control with a data transfer unit 2. What is necessary is just to prepare manual operation buttons 70, 72, and 74 and an equivalent carbon button on a data transfer unit 2 at a terminal unit 3 as a means to operate a terminal unit 3 by remote control with a data transfer unit 2. And what is necessary is just to make it transmit the control code equivalent to actuation of the corresponding carbon button to a terminal unit 3 using the means 22 which carries out wireless transmission. In the terminal unit 3, it is made to carry out the same actuation as actuation by actuation of manual operation buttons 70, 72, and 74 based on the control code which received.

[0030] In a terminal unit 3, data communication with the exterior can be performed now besides reception of healthy data through the graphical representation and the communication network 4 of healthy data which were accumulated. In order to perform these things, it is necessary to operate the manual operation buttons 70, 72, and 74 usually prepared on the terminal unit 3, and it is inconvenient in order to have to go out till a place with a terminal unit 3 at this time.

[0031] On the other hand, since a terminal unit 3 can be operated by remote control with a data transfer unit 2 according to the home health care system concerning the gestalt of this operation, it becomes possible to perform all actuation of a terminal unit 3 from remoteness, and very becomes easy to use.

[0032]

[Effect of the Invention] As mentioned above, if it is in invention according to claim 1 Two or more healthy measuring equipment equipped with a means to transmit a means to memorize a means to measure health condition, and the measured data, and the memorized data to a data transfer unit. The data transfer unit equipped with the means which carries out wireless transmission of a means to read the data which connected with healthy measuring equipment and healthy measuring equipment transmitted, and the read data at a terminal unit. Since it was made to consist of a terminal unit equipped with the actuation means for the means and user who manage a means to receive the data in which the data transfer unit carried out wireless transmission, and the received data to operate it By forming one data transfer unit which can read the data of all healthy measuring equipment Since the wireless transmission of the data which there is no need of establishing the means which carries out wireless transmission to all healthy measuring equipment, and were measured with healthy measuring

equipment to the terminal unit can be carried out, the effectiveness that a low cost home health care system can be offered that it is easy to use is done so.

[0033] If it was in invention according to claim 2, since it enabled it to transmit people's ID data specified by the means for a data transfer unit being equipped with a means to specify a user, in a home health care system according to claim 1, and specifying a user to a terminal unit, even when two or more users use, an individual data input can be performed from remoteness to a terminal unit, and the effectiveness that the home health care system which is easy to use can be offered is done so.

[0034] If it was in invention according to claim 3, since it enabled it to transmit the control code for having a means for a data transfer unit operating a terminal unit by remote control in a home health care system according to claim 1 or 2, and operating a terminal unit by remote control to a terminal unit and a terminal unit can be operated by remote control with a data transfer unit, all actuation of a terminal unit can be performed from remoteness, and the effectiveness that the home health care system which is easy to use can be offered is done so.

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TECHNICAL FIELD

[Field of the Invention] This invention relates to the home health care system which enables it to perform the health care, receiving an expert's advice at a house etc. by using for the independent health care by carrying out unitary management of the data about the health condition measured by general domestic with a terminal unit, or sending the data to experts who are present in a remote place through a communication network, such as a medical practitioner and a public health nurse.
[0002]

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PRIOR ART

[Description of the Prior Art] According to progress of rapid aging in recent years, the medical finances of our country have been tight and the response is searched for. In government, while making the health care cost burden to people increase, importance is attached to the changeover for the policy of "healthy structure for not becoming a disease" from the policy of conventional "early detection and early treatment" of a disease as a fundamental policy.

[0003] The "home health care system" is proposed as one of the means which performs effectively "healthy structure for not becoming a disease" mentioned above. This intends to measure the data (for example, for it to be the temperature measured in the blood-pressure value measured with the electronic tonometer, or the thermometer, and to be indicated as healthy data below.) about health condition measurable by general domestic at each home, to transmit to a medical institution, a health center, etc. through communication networks, such as a public line and a CATV circuit, with the terminal unit of dedication of the data, and to have the data analysis/a judgment by the expert made, and there is.

[0004] According to such a home health care system, it can carry out to the basis of instruction of the everyday health care in a home of an expert, and the more reliable health care comes be made, as a result the cutback of the count of going to hospital regularly can be expected.

[0005] As such a system, the home health care system shown in drawing 7 is proposed by JP,8-275927,A. If it is in this system, the terminal unit itself has the function of healthy measuring equipment, such as a sphygmomanometer and an electrocardiograph.

[0006] Generally, the terminal unit used with a home health care system is installed in a place with the connection terminal of the communication network which uses the data about the inputted health condition from it being necessary to transmit to a medical institution, a health center, etc.

* through a communication network. For example, when using the telephone line, a terminal unit will be installed near a modular terminal. Therefore, if it is in the home health care system shown in drawing 7, when it has the composition that a terminal unit and healthy measuring equipment were unified, in case a user measures health condition, he has to go till the place in which the terminal unit is installed specially, and may sense disadvantage for using it.

[0007] Then, with the home health care system of a publication, a terminal unit and healthy measuring equipment are independently prepared in JP,9-140748,A, infrared communication facility is prepared and the thing which enabled it to input the measured data into a terminal unit from remoteness is in healthy measuring equipment, such as a sphygmomanometer and a thermometer.

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EFFECT OF THE INVENTION

[Effect of the Invention] As mentioned above, if it is in invention according to claim 1 Two or more healthy measuring equipment equipped with a means to transmit a means to memorize a means to measure health condition, and the measured data, and the memorized data to a data transfer unit. The data transfer unit equipped with the means which carries out wireless transmission of a means to read the data which connected with healthy measuring equipment and healthy measuring equipment transmitted, and the read data at a terminal unit. Since it was made to consist of a terminal unit equipped with the actuation means for the means and user who manage a means to receive the data in which the data transfer unit carried out wireless transmission, and the received data to operate it By forming one data transfer unit which can read the data of all healthy measuring equipment Since the wireless transmission of the data which there is no need of establishing the means which carries out wireless transmission to all healthy measuring equipment, and were measured with healthy measuring equipment to the terminal unit can be carried out, the effectiveness that a low cost home health care system can be offered that it is easy to use is done so.

[0033] If it was in invention according to claim 2, since it enabled it to transmit people's ID data specified by the means for a data transfer unit being equipped with a means to specify a user, in a home health care system according to claim 1, and specifying a user to a terminal unit, even when two or more users use, an individual data input can be performed from remoteness to a terminal unit, and the effectiveness that the home health care system which is easy to use can be offered is done so.

[0034] If it was in invention according to claim 3, since it enabled it to transmit the control code for having a means for a data transfer unit operating a terminal unit by remote control in a home health care system according to claim 1 or 2, and operating a terminal unit by remote control to

a terminal unit and a terminal unit can be operated by remote control with a data transfer unit, all actuation of a terminal unit can be performed from remoteness, and the effectiveness that the home health care system which is easy to use can be offered is done so.

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TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention] However, if it was in the home health care system of the above configurations, the dependability of the health care improved so that there were many classes of healthy measuring equipment which can be used, but when the wireless communication facility by infrared radiation, an electric wave, etc. was included in all the healthy measuring equipment to be used in such a case, it led to the extraordinary cost rise of a home health care system, as a result had the trouble of becoming the hindrance of installation of a home health care system.

[0009] Like the above, the conventional home health care system has the problem that it will be inconvenient to use it or it will become expensive, and had become the factor in which these things bar the spread of home health care systems.

[0010] The place which accomplishes this invention in view of the above-mentioned trouble, and is made into the object is to offer a low cost home health care system that it is easy to use.

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MEANS

[Means for Solving the Problem] Two or more healthy measuring equipment equipped with a means to transmit a means to memorize a means by which invention according to claim 1 measures health condition, and the measured data, and the memorized data to a data transfer unit. The data transfer unit equipped with the means which carries out wireless transmission of a means to read the data which connected with healthy measuring equipment and healthy measuring equipment transmitted, and the read data at a terminal unit. It is characterized by consisting of a terminal unit equipped with the actuation means for the means and user who manage a means to receive the data in which the data transfer unit carried out wireless transmission, and the received data operating it.

[0012] In a home health care system according to claim 1, a data transfer unit is equipped with a means to specify a user, and invention according to claim 2 is characterized by enabling it to transmit people's ID data specified by the means for specifying a user to a terminal unit.

[0013] In a home health care system according to claim 1 or 2, invention according to claim 3 is equipped with a means for a data transfer unit to operate a terminal unit by remote control, and is characterized by enabling it to transmit the control code for operating a terminal unit by remote control to a terminal unit.

[Embodiment of the Invention] Hereafter, the gestalt of 1 operation of this invention is explained to a detail based on drawing_1 thru/or drawing_6. Drawing_1 is the block diagram of the home health care system concerning this invention. Drawing_2, R> 2 is the block diagram showing the internal configuration of healthy measuring equipment. Drawing_3 is the block diagram showing the internal configuration of a data transfer unit. Drawing_4 is general-view drawing showing the example of connection of healthy measuring equipment and a data transfer unit. Drawing_5 is general-view

drawing of a data transfer unit. Drawing_6 is the block diagram showing the internal configuration of a terminal unit.

[0015] The home health care system concerning this invention consists of pin center,large equipment 5 installed in an external hospital, the health center, the care pin center;large, etc. which were connected with the home side system which consists of the healthy measuring equipment 1a-1n, a data transfer unit 2, and a terminal unit 3, and the terminal unit 3 of a home side system through the telecom infrastructure 4, as shown in drawing_1 R>

1.

[0016] As healthy measuring equipment 1a-1n, there are a blood sugar meter besides a sphygmomanometer, a thermometer, and the scale, a pedometer, an electrocardiograph, etc., and if health condition can be measured at a home, there will be especially no limit. Moreover, you may make it one device independently used for these devices according to a user's situation, and may make it used for them combining two or more devices.

[0017] The healthy measuring equipment 1a-1n consists of means 10a-10n to measure the data related healthily, means 12a-12n to memorize the measured data, and the transmitting means 14a-14n for inputting the memorized data into a data transfer unit 2 and the control means 16a-16n which perform those control, as shown in drawing_2.

[0018] A means to measure temperature if it is the means and thermometer which will measure blood pressure if means 10a-10n to measure the data related healthily are sphygmomanometers — pointing out — each healthy measuring equipment 1 — it completely differs for a-everyn. moreover, Means 12a-12n and the control means 16a-16n which memorize the measured data — each healthy measuring equipment 1 — it differs for a-everyn.

[0019] However, about the transmitting means 14a-14n for inputting the memorized data into a data transfer unit 2, what fills common specification with all the healthy measuring equipment 1a-1n is used. one data transfer unit 2 used in common to every healthy measuring equipment 1a-1n by this — data ***** — things are made.

[0020] This data transfer unit 2 consists of a means 20 to read the data which the healthy measuring equipment 1a-1n transmitted, a means 22 which carries out wireless transmission of the read data at a terminal unit, and a control means 24 which performs those control, as shown in drawing_3.

[0021] The terminal unit 3 consists of the microprocessor 30 for controlling this equipment, ROM40 in which OS and application software were stored, RAM42 as a work area, the flash memory 44 for saving data, a means 50 to receive the data in which the data transfer unit 2 carried out wireless transmission, a LCD monitor 60, manual operation buttons 70, 72, and 74, and means of communications 80 for performing data communication with the

exterior, as shown in drawing 6.

[0022] Pin center, large equipment 5 is built using the usual personal computer and the interface device for communication networks to be used, and the data which were saved at the terminal unit 3 and which are related healthily can be periodically collected now automatically through a communication network 4.

[0023] It has been made to be performed by electric connection of the terminal for a communication link that transmission and reception of the data between the healthy measuring equipment 1a-1n and a data transfer unit 2 mind the male terminal prepared in the Metz terminal and data transfer unit 2 which were formed in the healthy measuring equipment 1a-1n (an electronic tonometer is used as healthy measuring equipment in drawing 4) as shown in drawing 4. A data transfer unit 2 receives data from the healthy measuring equipment 1a-1n, and carries out wireless transmission at a terminal unit 3 at the same time the healthy measuring equipment 1a-1n is connected. However, the data which prepared the are recording means and transmitting carbon button of data separately, and were received from the healthy measuring equipment 1a-1n are once stored according to the situation that a data transfer unit 2 is used, and when a transmitting carbon button is pushed after that, it may be made to carry out wireless transmission at a terminal unit 3. Moreover, as a gestalt of a data transfer unit 2, as shown in drawing 4, it is good also as a thing of a pocket mold, and it is good also as a non-portable thing which can install and set healthy measuring equipment as shown in drawing 5.

[0024] Thus, when are and data receive it made to be transmitted by electric connection of the mutual terminal for a communication link between the healthy measuring equipment 1a-1n and a data transfer unit 2, a circuit required for it can be far realized cheaply compared with the circuit of the wireless communication link by infrared radiation, an electric wave, etc.

[0025] Although high cost-ization of a home health care system will be caused when wireless communication facility is prepared in all the healthy measuring equipment 1a-1n and there are many healthy measuring equipment [to be used / 1a-1n] classes, as mentioned above The ** which does not cause high cost-ization by forming one data transfer unit 2 which is common to all the healthy measuring equipment 1a-1n, and can be used according to the home health care system concerning the gestalt of this operation. The data input in wireless to a terminal unit 3 is realized, and the home health care system which is easy to use can be offered.

[0026] In addition, you may make it add the means for specifying a user as a data transfer unit 2. If there are a carbon button with which a user's identifier was written, a reader of a slide switch and a fingerprint, etc. as a means to specify a user, for example and a user can be specified, it is good

anything.

[0027] Usually, although possibility of using a home health care system by two or more men is high at home, a terminal unit 3 needs to enable it to recognize whose thing the received healthy data are in such a case. When people's identifier which may be used beforehand is registered into the terminal unit 3 as a means for that and a terminal unit 3 receives data from a data transfer unit 2, people's identifier registered is displayed on the LCD monitor 60, and there is a method of choosing those who correspond out of it with manual operation buttons 70, 72, and 74. However, when the approach mentioned above is used, a user will have to go out till the place which has a terminal unit 3 despite a join office, and will become disadvantage.

[0028] Since a user can be specified with a data transfer unit 2 according to the home health care system applied to the gestalt of this operation on the other hand, in case healthy data are transmitted to a terminal unit 3 from a data transfer unit 2, the healthy data which received the terminal unit 3 can recognize whose thing it is by transmitting ID data equivalent to the user specified together. Thereby, even when using a home health care system by two or more men, the healthy entry of data from remoteness to a terminal unit 3 becomes possible, and it very becomes easy to use.

[0029] Furthermore, you may enable it to operate a terminal unit 3 by remote control with a data transfer unit 2. What is necessary is just to prepare manual operation buttons 70, 72, and 74 and an equivalent carbon button on a data transfer unit 2 at a terminal unit 3 as a means to operate a terminal unit 3 by remote control with a data transfer unit 2. And what is necessary is just to make it transmit the control code equivalent to actuation of the corresponding carbon button to a terminal unit 3 using the means 22 which carries out wireless transmission. In the terminal unit 3, it is made to carry out the same actuation as actuation by actuation of manual operation buttons 70, 72, and 74 based on the control code which received.

[0030] In a terminal unit 3, data communication with the exterior can be performed now besides reception of healthy data through the graphical representation and the communication network 4 of healthy data which were accumulated. In order to perform these things, it is necessary to operate the manual operation buttons 70, 72, and 74 usually prepared on the terminal unit 3, and it is inconvenient in order to have to go out till a place with a terminal unit 3 at this time.

[0031] On the other hand, since a terminal unit 3 can be operated by remote control with a data transfer unit 2 according to the home health care system concerning the gestalt of this operation, it becomes possible to perform all actuation of a terminal unit 3 from remoteness, and very becomes easy to use.

*** NOTICES ***

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- 1.This document has been translated by computer. So the translation may not reflect the original precisely.
- 2.*** shows the word which can not be translated.
- 3.In the drawings, any words are not translated.

DESCRIPTION OF DRAWINGS**[Brief Description of the Drawings]**

Drawing 1 It is the block diagram of the home health care system concerning this invention.

Drawing 2 It is the block diagram showing the internal configuration of healthy measuring equipment.

Drawing 3 It is the block diagram showing the internal configuration of a data transfer unit.

Drawing 4 It is general-view drawing showing the example of connection of healthy measuring equipment and a data transfer unit.

Drawing 5 It is general-view drawing of a data transfer unit.

Drawing 6 It is the block diagram showing the internal configuration of a terminal unit.

Drawing 7 It is general-view drawing of the conventional home health care system.

[Description of Notations]

- 1 Healthy Measuring Equipment
- 2 Data Transfer Unit
- 3 Terminal Unit
- 4 Communication Network
- 5 Pin Center/large Equipment
- 10 A Means to Measure Health Condition
- 12 A Means to Memorize Measured Data
- 14 A Means to Transmit Measured Data to Data Transfer Unit
- 20 A Means to Read Data Which Healthy Measuring Equipment Transmitted
- 22 Means Which Carries Out Wireless Transmission of the Read Data at Terminal Unit
- 30 Microprocessor
- 40, 42, 44 Memory
- 50 A Means to Receive Data in which Data Transfer Unit Carried Out

Wireless Transmission

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(73)特許権者 000005832

松下電工株式会社

大阪府門真市大字門真1048番地

(72)発明者

▲土▼井 謙之

大阪府門真市大字門真1048番地松下電工
株式会社内

(72)発明者

前田 光英

大阪府門真市大字門真1048番地松下電工
株式会社内

(72)発明者

榎原 仁

大阪府門真市大字門真1048番地松下電工
株式会社内

(74)代理人

100111556

弁理士 安藤 淳二 (外1名)

審査官 高瀬 勤

最終頁に続く

(54)【発明の名称】 在宅健康管理システム

1

(57)【特許請求の範囲】

【請求項1】 健康状態を測定する手段及び測定したデータを記憶する手段及び記憶されたデータをデータ転送装置に送信する手段を備えた複数の健康測定機器と、健康測定機器と接続され、健康測定機器が送信したデータを読み取る手段及び読み取ったデータを端末装置にワイヤレス送信する手段を備えたデータ転送装置と、データ転送装置がワイヤレス送信したデータを受信する手段及び受信したデータを管理する手段及び使用者が操作するための操作手段を備えた端末装置とからなることを特徴とする在宅健康管理システム。

【請求項2】 データ転送装置が使用者を特定する手段を備え、使用者を特定するための手段により特定された人のIDデータを端末装置へ送信できるようにしたことを特徴とする請求項1記載の在宅健康管理システム。

2

【請求項3】 データ転送装置が端末装置をリモートコントロールするための手段を備え、端末装置をリモートコントロールするための制御コードを端末装置へ送信できるようにしたことを特徴とする請求項1又は請求項2記載の在宅健康管理システム。

【発明の詳細な説明】

【0001】

【発明の属する技術分野】 本発明は、一般家庭内で測定した健康状態に関するデータを端末装置で一元管理することにより自主的な健康管理に役立てたり、そのデータを通信ネットワークを介して遠隔地にいる医師や保健婦等の専門家に送ることにより自宅等で専門家のアドバイスを受けながら健康管理を行うことが可能になる在宅健康管理システムに関するものである。

【0002】

【従来の技術】近年の急速な高齢化の進行により、我が国の医療財政は逼迫しており、その対応が求められている。政府では、国民への医療費負担を増加させるとともに、基本の方針として、従来の「病気の早期発見・早期治療」という方針から、「病気にならないための健康作り」という方針への転換を重要視している。

【0003】上述した「病気にならないための健康作り」を効果的に行う手段の一つとして、「在宅健康管理システム」が提案されている。これは、一般家庭内で計測可能な健康状態に関するデータ（例えば、電子血圧計により測定した血圧値や体温計により測定した体温等であり、以下健康データと記載する。）を各家庭において測定し、そのデータを専用の端末装置によって公衆回線やCATV回線等の通信ネットワークを介して医療機関や保健センター等に送信し、専門家によるデータ解析／判断を行ってもらおうというものである。

【0004】このような在宅健康管理システムによれば、家庭における日常的な健康管理を専門家の指導のもとに行うことができ、より信頼性の高い健康管理が出来るようになり、ひいては通院回数の削減を期待できるのである。

【0005】このようなシステムとして、特開平8-275927号公報には、図7に示す在宅健康管理システムが提案されている。このシステムにあっては、端末装置そのものが血圧計や心電計といった健康測定機器の機能を有している。

【0006】一般に、在宅健康管理システムで使用される端末装置は、入力された健康状態に関するデータを通信ネットワークを介して医療機関や保健センター等に送信する必要があることから、使用する通信ネットワークの接続端子がある所に設置される。例えば、電話回線を使用する場合、端末装置はモジュラー端子の付近に設置されることになる。従って、図7に示す在宅健康管理システムにあっては、端末装置と健康測定機器が一体化された構成となっている場合、使用者は健康状態を測定する際にわざわざ端末装置が設置されているところまで行かなければならぬことになり、使用するのに不便を感じることがある。

【0007】そこで、特開平9-140748号公報に記載の在宅健康管理システムでは、端末装置と健康測定機器が別々に設けられ、血圧計や体温計といった健康測定機器に赤外線通信機能を設け、測定したデータを遠隔から端末装置に入力できるようにしたものがある。

【0008】

【発明が解決しようとする課題】ところが、上述のような構成の在宅健康管理システムにあっては、使用できる健康測定機器の種類が多いほど健康管理の信頼性が向上するが、このような場合、使用する全ての健康測定機器に赤外線や電波等によるワイヤレス通信機能を組み込むと、在宅健康管理システムの非常なコストアップに繋が

り、ひいては在宅健康管理システムの導入の妨げとなってしまうという問題点を有していた。

【0009】上記のごとく、従来の在宅健康管理システムは、使用するのが不便であったり、高価になってしまふという問題があり、これらのことが在宅健康管理システムの普及を妨げる要因となっていた。

【0010】本発明は、上記の問題点に鑑みて成されたものであり、その目的とするところは、使いやすくかつ低コストな在宅健康管理システムを提供することにある。

【0011】

【課題を解決するための手段】請求項1記載の発明は、健康状態を測定する手段及び測定したデータを記憶する手段及び記憶されたデータをデータ転送装置に送信する手段を備えた複数の健康測定機器と、健康測定機器と接続され、健康測定機器が送信したデータを読み取る手段及び読み取ったデータを端末装置にワイヤレス送信する手段を備えたデータ転送装置と、データ転送装置がワイヤレス送信したデータを受信する手段及び受信したデータを管理する手段及び使用者が操作するための操作手段を備えた端末装置とからなることを特徴とするものである。

【0012】請求項2記載の発明は、請求項1記載の在宅健康管理システムにおいて、データ転送装置が使用者を特定する手段を備え、使用者を特定するための手段により特定された人のIDデータを端末装置へ送信できるようにしたことを特徴とするものである。

【0013】請求項3記載の発明は、請求項1又は請求項2記載の在宅健康管理システムにおいて、データ転送装置が端末装置をリモートコントロールするための手段を備え、端末装置をリモートコントロールするための制御コードを端末装置へ送信できるようにしたことを特徴とするものである。

【0014】

【発明の実施の形態】以下、本発明の一実施の形態について図1乃至図6に基づき詳細に説明する。図1は本発明に係る在宅健康管理システムのブロック図である。図2は健康測定機器の内部構成を示すブロック図である。図3はデータ転送装置の内部構成を示すブロック図である。図4は健康測定機器とデータ転送装置の接続例を示す概観図である。図5はデータ転送装置の概観図である。図6は端末装置の内部構成を示すブロック図である。

【0015】本発明に係る在宅健康管理システムは、図1に示すように、健康測定機器1a～1nと、データ転送装置2と、端末装置3とからなる家庭側システムと、家庭側システムの端末装置3と通信インフラ4を介して接続された外部の病院や保健センター・介護センター等に設置されたセンター装置5とから構成されている。

【0016】健康測定機器1a～1nとしては、血圧

計、体温計、体重計の他、血糖計、歩数計、心電計等があり、家庭において健康状態を測定できるものであれば特に制限はない。また、これらの機器は、使用者の状況に応じて1つの機器を単独で使用するようにしてもよいし、複数の機器を組み合わせて使用するようにしてもよい。

【0017】健康測定機器1a～1nは、図2に示すように、健康に関するデータを測定する手段10a～10nと、測定したデータを記憶する手段12a～12nと、記憶されたデータをデータ転送装置2に入力するための送信手段14a～14nとそれらの制御を行う制御手段16a～16nとから構成されている。

【0018】健康に関するデータを測定する手段10a～10nは、例えば、血圧計ならば血圧を測定する手段、体温計ならば体温を測定する手段を指し、各健康測定機器1a～1n毎に全く異なる。また、測定したデータを記憶する手段12a～12nや制御手段16a～16nも各健康測定機器1a～1n毎に異なるものである。

【0019】しかしながら、記憶されたデータをデータ転送装置2に入力するための送信手段14a～14nについては、全ての健康測定機器1a～1nで共通の規格を満たすものが用いられる。これにより、どの健康測定機器1a～1nに対しても共通に使用される一つのデータ転送装置2にデータ読み取らせることができるのである。

【0020】このデータ転送装置2は、図3に示すように、健康測定機器1a～1nが送信したデータを読み取る手段20と、読み取ったデータを端末装置にワイヤレス送信する手段22と、それらの制御を行う制御手段24とから構成されている。

【0021】端末装置3は、図6に示すように、本装置を制御するためのマイクロプロセッサ30と、OSやアプリケーションソフトが格納されたROM40と、ワークエリアとしてのRAM42と、データを保存するためのフラッシュメモリ44と、データ転送装置2がワイヤレス送信したデータを受信する手段50と、LCDモニタ60と、操作ボタン70、72、74と、外部とのデータ通信を行うための通信手段80とから構成されている。

【0022】センター装置5は、通常のパソコン及び使用する通信ネットワーク用のインターフェース装置を用いて構築されており、端末装置3に保存された健康に関するデータを通信ネットワーク4を介して定期的に自動で収集できるようになっている。

【0023】健康測定機器1a～1nとデータ転送装置2との間のデータの送受信は、例えば、図4に示すように、健康測定機器1a～1n（図4では健康測定機器として電子血圧計を使用）に設けられたメス端子及びデータ転送装置2に設けられたオス端子を介するといった通

信用端子の電気的な接続によって行われるようにしてある。データ転送装置2は、健康測定機器1a～1nが接続されると同時に、健康測定機器1a～1nからデータを受信し、端末装置3にワイヤレス送信するようになっている。ただし、データ転送装置2が使用される状況により、別途データの蓄積手段と送信ボタンを設けて、健康測定機器1a～1nから受信したデータを一旦蓄積し、その後、送信ボタンが押された時に端末装置3にワイヤレス送信するようにしても良い。また、データ転送装置2の形態としては、図4に示すように携帯型のものとしても良いし、図5に示すように健康測定機器を設置しておけるような据え置き型のものとしても良い。

【0024】このように、健康測定機器1a～1nとデータ転送装置2との間においてデータの送受信を互いの通信用端末の電気的な接続によって行うようにした場合、それに必要な回路は赤外線や電波等によるワイヤレス通信の回路に比べて、はるかに安価に実現できる。

【0025】前述したように、全ての健康測定機器1a～1nにワイヤレス通信機能を設けると、使用的する健康測定機器1a～1nの種類が多い場合、在宅健康管理システムの高コスト化を招くことになるが、本実施の形態に係る在宅健康管理システムによれば、全ての健康測定機器1a～1nに共通で使用できるデータ転送装置2を1台設けることで高コスト化を招かずに、端末装置3へのワイヤレスでのデータ入力を実現し、使いやすい在宅健康管理システムを提供できるのである。

【0026】なお、データ転送装置2に使用者を特定するための手段を付加するようにしてもよい。使用者を特定する手段としては、例えば、使用者の名前が書かれたボタンやスライドスイッチ、指紋の読み取り装置等があり、使用者を特定できるものであれば何でもよい。

【0027】通常、家庭では、在宅健康管理システムを複数の人で利用する可能性が高いが、このような場合、端末装置3は、受信した健康データが誰のものであるかを認識できるようにする必要がある。そのための手段としては、端末装置3に予め使用する可能性のある人の名前を登録しておき、端末装置3がデータ転送装置2からデータを受信した際、登録されている人の名前をLCDモニタ60上に表示し、その中から該当する人を操作ボタン70、72、74により選択するという方法がある。しかしながら、上述した方法を用いた場合、使用者は結局のところ端末装置3のあるところまで出向かなければならず、不便になってしまふ。

【0028】一方、本実施の形態に係る在宅健康管理システムによれば、データ転送装置2で使用者を特定することができるため、データ転送装置2から端末装置3に健康データを送信する際、一緒に特定された使用者に相当するIDデータを送信することにより、端末装置3は受信した健康データが誰のものであるかを認識することができる。これにより、在宅健康管理システム

を複数の人で利用する場合でも、遠隔から端末装置3への健康データの入力が可能となり、非常に使いやすくなる。

【0029】さらに、データ転送装置2により端末装置3をリモートコントロールできるようにしてもよい。データ転送装置2により端末装置3をリモートコントロールする手段としては、データ転送装置2上に端末装置3に操作ボタン70、72、74と等価なボタンを設けるようにすればよい。そして、ワイヤレス送信する手段22を利用して、該当するボタンの操作に相当する制御コードを端末装置3へ送信するようにすれば良い。端末装置3では、受信した制御コードに基づいて操作ボタン70、72、74の操作による動作と同じ動作をするようにしておく。

【0030】端末装置3では、健康データの受信の他にも、蓄積された健康データのグラフ表示や通信ネットワーク4を介して外部とのデータ通信が行えるようになっている。これらのことを行うためには、通常、端末装置3上に設けられた操作ボタン70、72、74を操作する必要があり、このときは、端末装置3のあるところまで出向かなければならないため不便である。

【0031】一方、本実施の形態に係る在宅健康管理システムによれば、データ転送装置2で端末装置3をリモートコントロールできるため、端末装置3の全ての操作を遠隔から行うことが可能になり、非常に使いやすくなる。

【0032】

【発明の効果】以上のように、請求項1記載の発明にあっては、健康状態を測定する手段及び測定したデータを記憶する手段及び記憶されたデータをデータ転送装置に送信する手段を備えた複数の健康測定機器と、健康測定機器と接続され、健康測定機器が送信したデータを読み取る手段及び読み取ったデータを端末装置にワイヤレス送信する手段を備えたデータ転送装置と、データ転送装置がワイヤレス送信したデータを受信する手段及び受信したデータを管理する手段及び使用者が操作するための操作手段を備えた端末装置とからなるようにしたので、全ての健康測定機器のデータを読み取ることが出来るデータ転送装置を1台設けることで、全ての健康測定機器にワイヤレス送信をする手段を設ける必要が無く、端末装置に対して健康測定機器で測定されたデータをワイヤレス送信できるため、使いやすくかつ低コストな在宅健康管理システムを提供することができるという効果を奏する。

【0033】請求項2記載の発明にあっては、請求項1記載の在宅健康管理システムにおいて、データ転送装置が使用者を特定する手段を備え、使用者を特定するための手段により特定された人のIDデータを端末装置へ送信できるようにしたので、複数の利用者が利用する場合でも遠隔から端末装置に対して個々人のデータ入力を行

うことができ、使いやすい在宅健康管理システムを提供することができるという効果を奏する。

【0034】請求項3記載の発明にあっては、請求項1又は請求項2記載の在宅健康管理システムにおいて、データ転送装置が端末装置をリモートコントロールするための手段を備え、端末装置をリモートコントロールするための制御コードを端末装置へ送信できるようにしたので、データ転送装置で端末装置をリモートコントロールすることができるため、端末装置の全ての操作を遠隔から行うことができ、使いやすい在宅健康管理システムを提供することができるという効果を奏する。

【図面の簡単な説明】

【図1】本発明に係る在宅健康管理システムのブロック図である。

【図2】健康測定機器の内部構成を示すブロック図である。

【図3】データ転送装置の内部構成を示すブロック図である。

【図4】健康測定機器とデータ転送装置の接続例を示す概観図である。

【図5】データ転送装置の概観図である。

【図6】端末装置の内部構成を示すブロック図である。

【図7】従来の在宅健康管理システムの概観図である。

【符号の説明】

1 健康測定機器

2 データ転送装置

3 端末装置

4 通信ネットワーク

5 センター装置

30 10 健康状態を測定する手段

12 測定したデータを記憶する手段

14 測定したデータをデータ転送装置に送信する手段

20 健康測定機器が送信したデータを読み取る手段

22 読み取ったデータを端末装置にワイヤレス送信する手段

30 マイクロプロセッサ

40、42、44 メモリ

50 データ転送装置がワイヤレス送信したデータを受信する手段

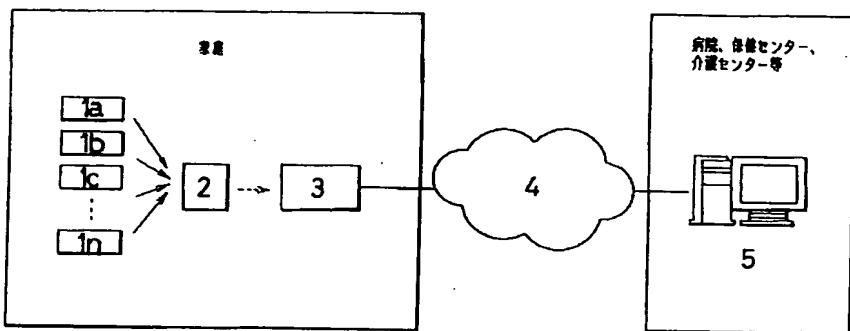
40 【要約】

【課題】 使いやすくかつ低コストな在宅健康管理システムを提供する。

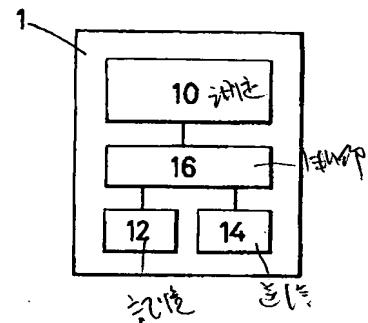
【解決手段】 健康状態を測定する手段10及び測定したデータをデータ転送装置2に送信する手段14を備えた複数の健康測定機器1と、健康測定機器1が送信したデータを読み取る手段20及び読み取ったデータを端末装置にワイヤレス送信する手段22を備えたデータ転送装置2と、データ転送装置2がワイヤレス送信したデータを受信する手段50及び受信したデータを管理する手段及び使用者が操作するための操作手段を備えた端末装

置とからなるようにした。

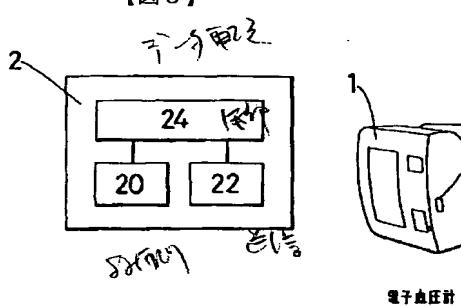
【図1】



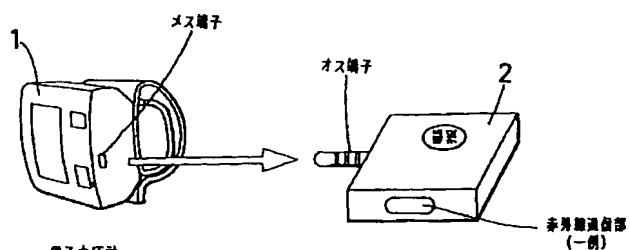
【図2】



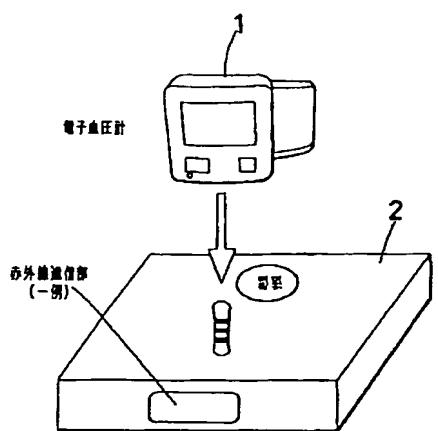
【図3】



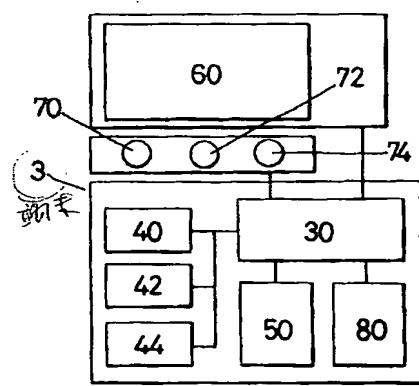
【図4】



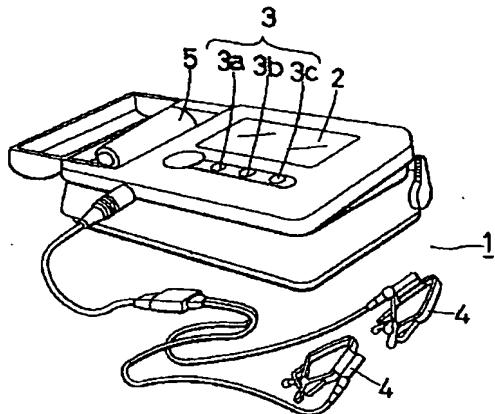
【図5】



【図6】



【図7】



フロントページの続き

(72)発明者 橋本 勝

大阪府門真市大字門真1048番地松下電工
株式会社内

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(72)発明者 吉田 恵一

大阪府門真市大字門真1048番地松下電工
株式会社内

特開 平6-292658 (JP, A)

特開 平5-137697 (JP, A)

(72)発明者 喜多山 和也

大阪府門真市大字門真1048番地松下電工
株式会社内

特開 平2-268390 (JP, A)

実開 平4-27901 (JP, U)

(72)発明者 小山 正樹

大阪府門真市大字門真1048番地松下電工
株式会社内

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(72)発明者 西村 治

大阪府門真市大字門真1048番地松下電工
株式会社内

(72)発明者 鈴木 佳子

大阪府門真市大字門真1048番地松下電工
株式会社内

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